DOCUMENT RESUME

ED 312 855 EC 221 314

TITLE	Management of Chronic Infectious Diseases in School Children. Revised Edition.
INSTITUTION	Illinois State Board of Education, Springfield.; Illinois State Dept. of Public Health, Springfield.
PUB DATE	89
NOTE	33p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Acquired Immune Deficiency Syndrome; *Communicable Diseases; Elementary Secondary Education; Policy Formation; *Program Development; Program Implementation; Rubella; *School Policy; *Special Health Problems; *State Standards
IDENTIFIERS	Cytomegalovirus; Hepatitis; Herpes Simplex; *Illinois

ABSTRACT

This manual contains current guidelines for Illinois school personnel to follow when working with children who have infectious diseases. The first chapter focuses on school district development of policies and procedures and program implementation. The next chapter provides information on characteristics, mode of transmission, prevention, and classroom implications for the following infectious diseases: congenital rubella syndrome, hepatitis B, cytomegalovirus infections, herpes simplex, and acquired immunodeficiency syndrome (AIDS) and AIDS-related illnesses. Chapter 3 provides guidelines on: (1) establishing infectious disease prevention procedures; (2) maintaining a safe, healthful school environment; (3) cleaning up body fluid spills; (4) maintaining a clean school environment; (5) special procedures for early childhood, day care, and special classroom settings; and (6) selecting an appropriate disinfectant and sanitizer. Appendix A provides two sample policies on infectious disease. Appendix B offers an AIDS case definition for surveillance purposes with three supplements providing information on laboratory evidence for or against HIV (human immunodeficiency virus) infections, definitive diagnostic methods for diseases indicative of AIDS, and suggested guidelines for presumptive diagnoses of diseases indicative of AIDS. Appendix C gives a classification system for HIV infections, appendix D a glossary of 14 terms, and appendix E a bibliography of 22 items. (DB)

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Management of

Chronic Infectious Diseases in School Children

Revised Edition
1989

Illinois State Board of Education

and

Illinois Department of Public Health

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FOREWORD

The highest priority of this State is meeting the educational and health needs of our children. This priority is second to none and the reason for producing this publication.

The growing concern about infectious diseases is having a great impact upon our schools, businesses, and public institutions. This document is designed to assist local school boards and their personnel in establishing procedures and policies that will not compromise the safety of a classroom nor a child's right to an education.

A Task Force has devoted time and expertise to developing recommendations that will help establish prudent, reasonable, and practical guidelines for school personnel to follow when working with children who have infectious diseases. The first edition of *Management of Chronic Infectious Diseases in School Children* was printed and distributed in January 1987. To date, over 15,000 copies have been distributed to the field. The task force was reconvened in late 1987 to make recommendations for this revision.

If you have questions or concerns, contact the Illinois Department of Public Health's Disease Control, 217/782-2016 or the School Health Section, 217/785-0240; your local health department; or the State Board of Education's Department of Special Education, 217/782-6601.

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ACKNOWLEDGEMENTS

In May of 1985, the Illinois State Board of Education organized a Task Force on School Management of Infectious Disease. The legal, social, educational and health issues surrounding the provision of educational services to students with the following chronic forms of infectious diseases were discussed.

1. Herpes Simplex
2. Acquired Immune Deficiency Syndrome (AIDS)
3. Cytomegalovirus (CMV)
4. Hepatitis B Carriers
5. Congenital Rubella Syndrome

This task force was charged with the responsibility of providing public school personnel with information necessary for them to meet the educational needs of students afflicted with one of these chronic infectious diseases and, at the same time, to maintain a safe and healthy environment for all students. In order to meet this charge, the task force recommended the development of a document which provides schools with information on the five chronic infectious diseases listed above.

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The contributions of both time and expertise from members of the Task Force and their respective organizations and agencies are greatly appreciated. We also want to acknowledge the California State Department of Education and the State of Connecticut Departments of Education and Health Services whose publications on infectious diseases were of great assistance to the Task Force in the development of this document.

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TABLE OF CONTENTS

CHAPTER ONE: Development of an Infectious Disease Program 1

Introduction 1

Policies and Procedures 1

Implementing and Maintaining the Infectious Disease Program 4

CHAPTER TWO: Infectious Diseases 5

Congenital Rubella Syndrome 5

Hepatitis B 6

Cytomegalovirus (CMV) Infections 7

Herpes Simplex 7

Acquired Immunodeficiency Syndrome (AIDS) and AIDS Related Complex (ARC) 8

CHAPTER THREE: Procedures for School Management of Infectious Diseases 10

Guidelines for Establishing Infectious Disease Prevention Procedures 10

Guidelines for Maintaining a Safe, Healthful School Environment 10

Procedures for Cleaning Up Body Fluid Spills 12

Guidelines for Maintaining a Clean School Environment 13

Special Procedures for Early Childhood, Day Care and Special Classroom Settings 13

Selecting an Appropriate Disinfectant and Sanitizer 15

APPENDIX A: Illinois Association of School Boards Sample Policy

Advisory Committees

Students 17

APPENDIX B: AIDS Case Definition for Surveillance Purposes

Supplement 1: Laboratory Evidence For or Against HIV Infections

Supplement 2: Definitive Diagnostic Methods for Diseases Indicative of AIDS

Supplement 3: Suggested Guidelines for Presumptive Diagnosis of Diseases Indicative of AIDS

APPENDIX C: Classification System for HIV Infections

APPENDIX D: Glossary 25

APPENDIX E: Bibliography 26

CHAPTER ONE

DEVELOPMENT OF AN INFECTIOUS DISEASE PROGRAM

INTRODUCTION

The chronic infectious diseases covered in this manual have been limited to Acquired Immunodeficiency Syndrome (AIDS), Congenital Rubella Syndrome (CRS), Cytomegalovirus (CMV), Hepatitis B and Herpes Simplex. Specific information regarding the management of other infectious diseases not listed in the manual is available from the Infectious Disease Section at your local health department or from the Illinois Department of Public Health regional or state offices.

Most individuals who contract a communicable disease have a definite period of time in which they are considered to be contagious. When they have fully recovered from the communicable disease, they are no longer able to transmit the infection to others. In some instances, either disease-specific or for other reasons, some individuals may remain capable of transmitting disease for long periods of time after they have recovered from the acute phase of an illness. These individuals are said to have chronic infectious diseases.

In recent months it has become apparent that school personnel and parents have many questions regarding the risks of exposure to diseases within the school setting and the appropriate management of students with chronic infectious diseases. This document has been designed to provide answers to some of these questions, to help school personnel understand how infectious diseases can be transmitted, and to assist school districts in the development and implementation of school programs that will meet the needs of students who have chronic infectious diseases and prevent the spread of such diseases in the school setting.

The most effective means of school management of infectious diseases is to develop a plan before it is needed. In many instances, school districts will be informed of the enrollment of a student who is known to have a chronic infectious disease. However, there remains a risk that some students are or will be enrolled in school who are unknown carriers of infectious diseases. For this reason, school districts should not wait until a student with a chronic infectious disease enrolls in the school to plan a program. It is strongly recommended that school districts establish policies and procedures to reduce the risk of spreading disease, regardless of the presence or absence of a student known to have an infectious disease.

The Illinois State Board of Education and the Illinois Department of Public Health place a high priority on the need to prevent the spread of infectious diseases in schools. By encouraging the use of the information and procedures described in this document, it is hoped that the health and regular school attendance of students can be improved so that they may attain their maximum potential for learning.

POLICIES AND PROCEDURES

An infectious disease program should include the following components: 1) policies and procedures related to identification, placement, and school management of students with infectious diseases; 2) an infectious disease review team consisting of the school medical advisor, the school nurse and the school administrator that is responsible for planning and managing the educational program for the individual student with an infectious disease; 3) maintenance of routine hygienic procedures to assure a clean, safe, healthful school environment; and 4) a health education/health counseling program to educate school staff, students and parents.

The first step in establishing an infectious disease program is the development of appropriate policies and procedures. The school board is legally responsible for the formulation and adoption of all school policies. In view of the scope of the infectious disease program, it is recommended that school officials establish a task force consisting of the school administrator, the school medical advisor, the school nurse and representatives from the school board, local health department, teaching staff, PTA or PTO, custodial staff, food service staff, etc., to assist in the development of the infectious disease program and to serve in an advisory capacity to the school board in the development of policies to implement the program. Sample policies developed by the Illinois Association of School Boards are included in Appendix A.

The school board should make public its policies on management of students who have chronic infectious diseases. Copies of the school board policies should be distributed to all parents in the district and to all school staff.

Legal Considerations Related to Chronic Infectious Diseases

Federal and state courts have held that children affected with chronic infectious diseases are entitled to a free, appropriate public education in the least restrictive environment and are covered by the substantive and procedural protections incorporated in the statutes (*New York State Ass'n for Retarded Children, Inc. v. Carey*, 612 F.2d 644 (2d Cir. 1979); *Robertson v. Granite City Community Unit School District No. 9*, 684 F. Supp. 1002 (S.D. Ill. 1988); *Doe v Belleville Public School Dist. No. 118*, 672 F.Supp. 342 (S.D. Ill. 1987); *Thomas v. Atascadero Unified School Dist.*, 662 F.Supp. 376 (C.D. Cal. 1987); *White v. Western School Corp.*, No. 85-1192-C (S.D. Ind.); In re Ryan White, 1985-86 EHLR DEC. 507:342 (1986); *Community High School Dist. 155 v. Denz*, 124 Ill. App. 3d 129, 463 N.E. 2d 998 (1984).

Recently, a number of laws have been enacted regulating practices for specific infectious diseases; therefore, school policy must always comply with current laws and regulations relating to infectious diseases, as well as education law. Copies of current legislation regarding the management of children with chronic infectious diseases are available upon request from the Illinois Department of Public Health or the Illinois State Board of Education.

Students who have chronic infectious diseases may, but do not necessarily, require special education or adaptive programming. Each student should be individually evaluated to determine the most appropriate educational placement.

Guidelines for Development of Policies and Procedures Related to Infectious Diseases

The following guidelines are intended to provide local school districts with a framework for developing policies and procedures related to infectious diseases.

1. All children in Illinois, including those with chronic infectious diseases, have a right to a free public education. Students with chronic infectious diseases are eligible for all rights, privileges and services provided by law and the local policy of each school district.

2. The school should respect the right to privacy of the individual. State law (Ch. 111 1/2, par. 22.12a) regulates who can legally be informed of the identity of a student infected with the HIV virus. Legal action may be taken against any person who intentionally or recklessly violates an infected child's rights to confidentiality. The law permits school administrators to inform such other persons as may be necessary that an infected child is enrolled at that school, so long as the child's identity is not revealed. In all cases, knowledge that a student has an infectious disease should be confined to those persons with a direct need to know (e.g. principal, school nurse and student's teacher) or as prescribed by law. Those persons who are informed of the identity of an infected child should be provided with appropriate information concerning such precautions as may be necessary and should be made aware of confidentiality requirements.

3. Students known to have chronic infectious diseases should be individually evaluated in order to determine if their behavior or physical condition poses a high risk of spread of disease. The school infectious disease review team should work with local, regional or state health officials, the family physician, the student, the student's teacher and the student's parents to establish the most appropriate education program for a student identified as having an infectious disease. Policies and procedures should be in place to protect the infected student's right to an appropriate education, as well as to ensure a safe classroom environment for all students.

4. As a consequence of the evaluation, there should be a specific plan for the education of the student. This individual student plan should identify the student's educational program, the health-related conditions of the placement (For example, the student is to be educated in a regular classroom with other students except when certain conditions related to the infectious disease are present.), specific health instructions, and other relevant information.

5. In most cases, students with chronic infectious diseases should be allowed to attend school in a regular classroom setting. Adaptations of classroom environment or curricular offerings should be provided as needed by the student. Note: Although most of the case law relating to students with chronic infectious disease is in the area of special education, this does not mean that a student with such a disease should automatically be considered for special education placement. Unless the student is otherwise in need of special education services, such programs should be considered only as a resource for meeting special needs of the individual child—for example, temporary services in the home or hospital.

6. Under certain circumstances, it may be necessary to provide the student with an alternative school program or to remove the student from the school setting for a period of time.

a. Certain changes in the student's health condition may require temporary removal from his/her regular program. Generally, if the student develops a temporary condition which poses a risk of transmission of disease to others (for example, if the student develops open lesions), the student should be removed from the regular program until he or she may be safely returned to the classroom. The decision to remove the student from school should be based upon public health recommendations specific to the transmissibility of disease. Readmission should occur only with medical documentation and after consultation with the school nurse.

b. Under the following circumstances a student with an chronic infectious disease may pose an ongoing risk of transmission to others: if the student lacks toilet training, has open sores that cannot be covered, or demonstrates behavior (e.g. biting) which could result in direct inoculation of potentially infected body fluids into the bloodstream of others. If any of these circumstances exist, the review team should consult with the student's physician and the local health authorities regarding the risks involved to determine whether the student should be educated in an educational environment separate from other students. The school district policies should specifically identify the decision-making process for such placements.

c. Exclusion from the school should not be construed as the only response to reduce risk of transmission. The school district should be flexible in its response and should attempt to use the least restrictive means to accommodate the student's needs.

7. State health regulations regarding the health-related exclusion of students who have acute contagious diseases are specific regarding the length of time a student must remain out of school. Recommendations concerning the removal of students who have chronic infectious diseases are not as clearly defined; therefore, the length of time the student with a chronic infectious disease should be kept out of school should be determined on a case-by-case basis depending upon the recommendations of the student's physician, local health officials and the school's infectious disease review team.

8. Each student should have the right to due process. If the parents or guardians disagree with the student's educational placement or change of placement due to factors described in #6 above, there should be a process by which such objections can be considered including, at a minimum, notice and an opportunity to be heard. Parents or guardians should be offered the opportunity to be heard within ten (10) days of their request. Written policies should be in place to guarantee this process.

9. The maintenance of confidentiality is of the upmost importance; school board meetings to discuss matters relating to an individual student should be closed in accord with the Open Meetings Act, *Illinois Revised Statutes*, Chapter 102, par. 41 *et seq.*

10. In some instances, students who have an immunodeficiency may need to be removed from the classroom for their own protection—for example, if there is an outbreak of a contagious disease. The decision to remove the student from school should be made by the student's physician and parent/guardian in consultation with the school nurse.

11. Individual health conditions permitting, a student who is removed from the school should be provided with a continuing education program until it is determined that the student can be safely returned to the classroom. If it is expected that the student will be out of the school setting for more than 10 school days, a home and hospital programs may be appropriate. The school district should do everything possible to ensure that the student's educational progress is maintained.

12. The school nurse should routinely monitor all students identified as having infectious diseases.

    a. Students should be monitored continuously in order to determine if their behavior or medical condition has altered in such a way as to affect their transmissibility status.

    b. When a student is removed from normal school attendance as described in #6, the student should be placed on a monitoring schedule, appropriate to the infectious disease and the condition precipitating the removal or change, for the purpose of alternative educational programming or reintegrating the student into the public school setting.

    c. Students with infectious diseases should be educated in the least restrictive environment possible, and even those children whose behavior or physical condition precludes school attendance should be routinely evaluated for return to the classroom.

13. Routine and standard procedures of cleanliness and hygiene should be used to clean up after any student who has an accident or injury at school. Blood or other body fluids (saliva, vomitus, feces, urine) emanating from any student, including ones known to have infectious diseases, should be treated cautiously. The district policies for managing infectious disease should ensure that all school staff are instructed regarding the hygienic procedures necessary to maintain a safe, clean school environment. See Chapter Three for more details regarding the procedures to be used.

IMPLEMENTING AND MAINTAINING THE INFECTIOUS DISEASE PROGRAM

An effective program requires the full participation and support of all school officials, local health department officials, local physicians, parents and all school staff. After the infectious disease program and policies have been developed, the school administrator should delegate to the appropriate school staff the responsibility for implementing and maintaining the program. In delegating the specific tasks, the school administrator must be sure that each staff person fully understands his or her responsibility in implementing the program.

The school nurse is the most appropriate person to coordinate the school's infectious disease program. The coordinator of the infectious disease program should:

1. participate in the development of infectious disease policies and procedures;
2. interpret infectious disease policies and procedures to school personnel, parents and students;
3. provide health education and health counseling regarding infectious diseases;
4. orient, instruct and supervise the maintenance of hygienic procedures as described in Chapter Three;
5. develop the health component of the student's educational plan;
6. monitor and assess students with infectious diseases;
7. recommend modification of the school program of infected students, as needed;
8. serve as the advocate for the infected student;
9. act as the liaison between the school, home, community health agencies and the private medical sector; and
10. keep up with current information, rules and regulations, policies and procedures relating to infectious diseases.

Extreme measures to isolate students with chronic infectious diseases are not necessary. Many irrational fears can be mitigated through planned health education and health counseling programs. The school infectious disease task force should plan an ongoing education program for school staff, students and parents. The educational program should include information regarding the mode of transmission and the methods of preventing the spread of infectious diseases. Formal instructional programs in health, family life and sex education must comply with state law in the area of chronic infectious diseases.

CHAPTER TWO

INFECTIOUS DISEASES

An understanding of the different types of infectious diseases is essential in planning and implementing an effective infectious disease management program. This chapter provides a brief description of the chronic infectious diseases, the ways the diseases are transmitted to others, the methods of preventing the diseases and suggestions on how to manage students who have infectious diseases in the school setting.

Decisions regarding the educational and care setting for an infected student should be based on the behavioral, neurological and physical condition of the particular student and the expected type of interaction with others in that setting. The decisions are best made using the infectious disease review team, which should include the student where appropriate, the student's parent or guardian, the student's physician, the school nurse, local public health authorities, and personnel associated with the proposed care or educational setting. In each case, risks and benefits to both the infected student and others in the setting should be weighed.

For infected students including preschool and neurologically handicapped students who lack control of body secretions or who display behavior such as biting and students who have uncoverable, oozing lesions, the review team shall consider recommending a more restricted environment.

CONGENITAL RUBELLA SYNDROME (CRS)

Congenital rubella syndrome (CRS) is a severe disease caused by rubella virus infection usually contracted by a woman who is in her first trimester of pregnancy. Approximately 25 percent of such infections will result in disease in the developing fetus that is recognizable at birth. Of the remaining 75 percent who appear normal at birth, 55 percent may be found to be affected by age two. The incidence of fetal infection is much less when infections occur later in pregnancy. Fetuses exposed after 16 weeks of gestation have a 10-20 percent risk of infection. Infections beyond the 20th week of gestation rarely result in defects. Affected children may have mental retardation, cataracts, glaucoma, heart defects, hearing defects, and bone defects. Rubella infections acquired after birth result in a mild disease with a rash, a low fever, swollen lymph nodes and painful joints.

In past years, rubella infections occurred often, primarily in young children, but now they occur infrequently due to the widespread use of rubella vaccine. Cases that occur now are equally distributed among young children, adolescents, and teenagers. Infection with this virus provides lifelong immunity, as does vaccination with rubella vaccine. Between 15 and 25 percent of adults are not immune to rubella infection.

Mode of Transmission

Rubella is a highly contagious viral infection which is spread through direct and indirect contact with an individual who has the disease or a CRS child who continues to shed the virus (primarily during the first eighteen months of life).

Prevention

All children, unless they have a medical condition that would cause abnormalities in the immune system, should be immunized against rubella by age 15 months. Adult women of childbearing age whose occupations bring them in frequent contact with children should be immunized against rubella if they are susceptible. Rubella vaccine should not be given to pregnant women, and other adult women who receive the vaccine should not become pregnant for the next three months because of theoretical risks to the developing fetus. As in the case of children, adults who have abnormalities in their immune systems should not be immunized against rubella.

The CRS Student in the Classroom

Routine hygienic procedures should be used in providing care for all students. However, immunization against rubella is the primary means for prevention of spread of disease for those who are in contact with students who have congenital rubella syndrome. Unimmunized, susceptible children are not at risk of serious disease, but may transmit the disease to susceptible, pregnant women (their mothers, teachers, etc.).

Children with CRS should be considered infectious during their first eighteen months of life. Approximately 10 to 20 percent of CRS infants carry the virus at age six months, and by age 20 months, approximately three percent continue to carry the virus. When CRS children carry the rubella virus, it is present in urine, oral secretions and nasal secretions. Contact with these secretions can result in infection of another child or adult if they have never before had rubella or if they have never been immunized. Precautions to prevent transmission become very important as school programs are expanded to include younger children.

HEPATITIS B

Hepatitis B is a viral infection of the liver. When it produces illness, the person will have a loss of appetite, tenderness in the upper right abdomen, extreme fatigue, and often jaundice. Approximately 50 percent of adults and approximately 90 percent of young children who are infected with this virus will not develop symptoms. Most persons infected with this virus recover completely, but six to ten percent become chronic carriers. Persons with abnormalities in their immune systems and persons with Down syndrome, if exposed to the virus, are more likely to become chronic carriers than other exposed persons.

Specific blood tests will determine if a person is a chronic hepatitis B carrier. The hepatitis B surface antigen (HBsAg) test must be positive on two occasions at least six months apart before a person can be identified as a chronic hepatitis B carrier.

Mode of Transmission

Blood, saliva, vaginal secretions, and semen are the only body fluids known to be capable of transmitting hepatitis B. One of these infectious body fluids must make contact with broken skin or a mucous membrane before transmission can occur. Among the modes of transmission for hepatitis B are any percutaneous exposures (ear piercing, tattooing, injections) when the instrument has not been appropriately disinfected between uses. If a hepatitis B carrier has an accident and bleeds and the person caring for that injury has a hangnail or other broken skin which comes into contact with the blood, the person caring for the injured carrier may develop hepatitis B. Also, if a hepatitis B carrier bites another person, the bite victim may develop hepatitis B. Transmission of the hepatitis B virus following exposure does not always occur. An accidental prick with a needle used to treat a hepatitis B carrier is a higher-risk type of contact than those described above, yet only 5% to 30% of such needle pricks result in transmission of the hepatitis B virus. This variation of risk depends on whether the hepatitis B-infected person is positive or negative for the hepatitis B e antigen. Persons exposed by needle prick to carriers positive for the hepatitis B e antigen have a 30% risk of infection, while those exposed to carriers negative for the hepatitis B e antigen have a 5% risk.

Prevention

Two vaccines are now available to protect high-risk individuals against hepatitis B. One vaccine (Heptavax$_{TM}$)* is produced from the blood of persons infected with the hepatitis B virus and the other (Recombivax$_{TM}$)* is produced synthetically by microbial genetic engineering. These vaccines in combination with hepatitis B immune globulin have greatly reduced the risk of accidental transmission of hepatitis B. Standard hygienic procedures should also be employed to reduce the risk of transmission of this disease.

The Hepatitis B Carrier in the Classroom

Most hepatitis B carriers, except spontaneous biters and those who are physically aggressive, can be safely admitted to classrooms. Care must be taken to prevent injury which might cause bleeding of the carrier because of the infectious nature of hepatitis B following blood exposure. Infected students should not participate in activities which might promote accidental bleeding (e.g., sewing classes, wrestling, etc.). Therefore, the carrier should not engage in rough games involving physical contact and should not work with sharp objects. Sewing would not be an acceptable handicraft for a hepatitis B carrier. The carrier should not be in a classroom with a combative child. The classroom teacher should be prepared to identify situations in which there is environmental contamination with one of these infectious body fluids and to assure that the affected area is promptly decontaminated. Routine hygienic procedures as described in Chapter Three are essential to the prevention of spread of the hepatitis B virus. Particular attention should be taken when cleaning up blood, saliva, vaginal secretions or semen. (See Chapter Three, Section III.)

Hepatitis B vaccine may be indicated for classroom contacts of some, but not all, hepatitis B carriers. For example, classroom contacts of a carrier who is profoundly retarded and exhibits biting behavior should probably receive hepatitis B vaccine. Conversely, vaccination of classroom contacts of a neurologically normal carrier who has no behavioral problems would probably not be recommended. Each hepatitis B carrier's circumstances should be

*Use of trade names does not imply endorsement by the Illinois State Board of Education or by the Illinois Department of Public Health.

reviewed individually to determine the need for vaccination of classroom contacts. Public Health authorities and the school infectious disease review team should collaborate in this evaluation.

CYTOMEGALOVIRUS (CMV) INFECTIONS

Most children and adults who are infected with this virus will exhibit no symptoms. The few who develop symptoms will usually have an illness resembling infectious mononucleosis with fever, swollen lymph nodes, and sore throat. These infections do not result in serious long-term effects. Rarely, children and adults infected with this virus will experience pneumonia or will have liver abnormalities which may include jaundice. Serious disease can occur when a child or adult with an impaired immune system is infected or when a developing fetus is infected.

Children and adults at increased risk for severe disease are those who have serious medical conditions that cause impairment of the immune system such as leukemia or those who are receiving medical treatments that suppress the immune system, such as patients undergoing cancer chemotherapy or radiation therapy and organ-transplant recipients.

The most severe infections occur in developing fetuses. When a pregnant woman who has never before been infected with this virus is exposed, she may transmit the infection to her fetus. Even though the most severe infections (congenital) occur before birth, only ten percent of such infections result in disease. Many children affected congenitally will have mental retardation and may have abnormalities of any of the body's systems.

This viral infection occurs frequently. In the United States, up to 40 percent of the adult population has been exposed. Most infections are believed to occur before age 2.

Following initial infection with this virus, children may remain infectious for months to years. Congenitally infected children are more likely to have prolonged infectious periods than are children infected after birth. Although no studies are known to have been conducted on school-aged children, studies of preschool-aged children show that 5 to 30 percent can be expected to be shedding the virus at any point in time.

Mode of Transmission

Urine and saliva are infectious for a variable period of time following initial infection. The virus can be transmitted to a susceptible person when one of these infectious fluids makes contact with a break in the skin or a mucous membrane of the eye, nose, or mouth. For this reason, it is recommended that pregnant teachers be counseled on the risk of caring for a known CMV-infected child and offered an alternate assignment during pregnancy. The actual risk of CMV exposure is probably greater following contact with the general school population than following exposure to known CMV-infected children because known infected children have been identified and the use of hygienic precautions can be reinforced.

Prevention

Currently, there is no vaccine to protect against CMV infections. Because CMV is ubiquitous, there is risk of transmission of this virus in all settings where there is close contact with and among infants and children, regardless of the known presence or absence of a child known to be excreting the virus. The most effective method of preventing transmission is the practice of thorough hand washing after touching objects known to be exposed to potentially infectious fluids (urine and saliva) and before eating, smoking, drinking or any other activity that would bring hands in contact with the eyes, nose, or mouth.

The CMV Student in the Classroom

Routine hygienic procedures as described in Chapter Three are necessary to prevent the spread of CMV. It is recommended that pregnant caretakers (teachers, health aides, etc.) be counseled on the risk of caring for a known CMV-infected child and offered an alternate assignment during pregnancy.

HERPES SIMPLEX

Herpes infections are caused by two subtypes, herpes simplex virus type 1 (HSV-1) and herpes simplex virus type 2 (HSV-2). Although HSV-1 is most often associated with cold sores and fever blisters and HSV-2 is most often the cause of genital herpes, either virus can cause infection in either anatomical site. Twenty-five percent of genital herpes infections are caused by type 1, and 10 percent of oral herpes infections are caused by type 2. Although much public attention has been drawn to type 2 genital herpes infections, there is little distinction between the symptoms produced by these viruses, and their methods of control are the same.

Initial infection with these viruses is sometimes followed by recurrent episodes in subsequent months or years. Infections with these viruses are common, with 50-90 percent of adults showing evidence of past infections. The majority of primary infections produce no symptoms. Among exposed persons who do develop symptoms (10-50 percent), there will be an illness comprised of fever and malaise lasting for approximately one week and a vesicular lesion or lesions (raised sore) on the lip, mouth, throat, eye, external genitalia, or vagina four to five days following exposure. Secretions from these lesions are most infectious during the 24 hours after they appear and remain infectious for about two weeks. Some people, particularly those with genital infections, have recurrent episodes which are similar, but milder, than the original infections. Many recurrent infections are limited to appearance of the fever-blister-type sore. Secretions from recurrent infections are infectious for about 7 days.

Regardless of the recurrence of symptoms, some people who have been infected with either of these viruses are periodically infectious. The saliva is periodically infectious in some people who have oral infections, and genital secretions are periodically infectious in some persons whose infections are at that anatomical site. Lesions may be infectious until they are covered with a scab and dry.

At any given time, an estimated 2-10 percent of the population is shedding either of these herpes viruses.

Mode of Transmission

Contact with secretions from herpes sores, saliva, and genital secretions can transmit herpes infections. The viruses are not highly contagious and direct contact with infectious secretions is required. Intact skin is believed to be an effective barrier, but broken skin and mucous membranes can allow the virus to enter a susceptible person's body.

The virus can be transmitted to the newborn from the mother with active genital lesions, resulting in disseminated infection, encephalitis and death. Newborns can also be infected by contact with other persons who have active herpes sores. Newborns infected at birth have an approximately 60 percent chance of dying. Of the survivors 45 percent will suffer permanent damage such as mental retardation.

Prevention

Currently, there is no vaccine available to protect against herpes infection. Thorough hand washing is essential for the prevention of herpes virus transmission. Hands should be washed after handling a child with active lesions and before using the toilet. Obviously, hands should always be washed after using the toilet. When a child has active lesions, close physical contact with other children should be limited. Towels, clothing, and eating utensils used by a child with active lesions should be kept separate to prevent contact by others. Toys and other items exposed to the saliva of a child with active sores should be washed before another child has contact with them.

The Herpes Simplex Student in the Classroom

Routine hygienic procedures, as described in Chapter Three, are essential for the prevention of herpes infections. The herpes simplex student should be excluded from school attendance when large areas of active lesions, which cannot be covered with a protective dressing, are present. The student should remain out of school until the lesions are dry and crusted. Students who have minor lesions and students who have lesions which can be covered may remain in school. Students should be excluded from contact sports (i.e., wrestling) if active lesions are present outside of the genital area.

ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS) AND AIDS-RELATED ILLNESSES

The acquired immunodeficiency syndrome (AIDS) is a serious disease caused by infection with the human immunodeficiency virus (HIV), previously known as HTLV-III, LAV, and HTLV-III/LAV. Persons with AIDS have developed a defect in the functioning of their immune systems as a result of HIV infection. These persons are extremely susceptible to certain types of opportunistic infections and to certain rare forms of cancer. No treatment is currently available to reverse the immune system deficiency, however, the drug azidothymidine (AZT) has been licensed and appears to slow progression of the disease in certain AIDS patients and certain other persons with illness due to HIV. A brand name for azidothymidine is Zidovudine.

AIDS cases are diagnosed according to a specific and involved protocol developed by the Centers for Disease Control (see Appendix B) when specific secondary infections and cancers occur. Most often AIDS cases are diagnosed as having a rare opportunistic infection such as *Pneumocystis carinii* pneumonia, a rare form of cancer known as Kaposi's sarcoma, or other opportunistic diseases highly suggestive of faulty immune systems. Not all persons infected with the HIV develop AIDS. In some infected persons, the infection leads to detectable, but apparently less severe abnormalities of the immune system (formerly known as AIDS-Related Complex [ARC]) that do not result in the development of the diseases listed in Appendix B. These varying degrees of illness or disease are categorized in Appendix C. Some persons with milder forms of HIV infection will develop AIDS and others will not. The percentage who develop AIDS remains unknown. Because both AIDS cases and other persons with less severe forms of HIV infection are infected with the HIV, they may be capable of transmitting infection to others. The same precautions to prevent spread of HIV infections apply to all persons infected with HIV.

Persons at increased risk for AIDS and less severe forms of HIV infection include homosexual or bisexual men, users of intravenous drugs, patients with hemophilia, sexual partners of the above groups, and sexual partners of AIDS cases. Additionally, a small number of cases have occurred in blood-transfusion recipients, and some infants have acquired the disease from their infected mothers before birth, at the time of birth, or during the first few months of life POSSIBLY from breast milk. HIV has been found in blood, semen, saliva, tears, and vaginal secretions of AIDS patients. Saliva, tears, and vaginal secretions contain the virus only occasionally, and when present, the virus is found in low concentrations compared to the concentrations found in blood and semen.

Mode of Transmission

The virus can be transmitted from one person to another in several ways, but each way involves direct inoculation or introduction of an infectious body fluid from the infected person to another person. This exposure can occur with intimate sexual contact, sharing of hypodermic needles, blood transfusion, or contact between mother and infant as described above. Studies have been conducted on household contacts of AIDS patients who are hemophiliacs, AIDS patients who acquired their infection through blood transfusion, and pediatric AIDS patients. There is no evidence that transmission occurs (as measured by development of AIDS or a positive antibody test) either through casual contact with an AIDS patient or through the airborne route. The only household contacts in these studies who have evidence of exposure to this virus are sexual or blood contacts of the AIDS case. All evidence regarding the transmission of AIDS indicates that casual person-to-person contact appears to pose no risk for transmitting the HIV.

Prevention

There is no currently available vaccine that prevents HIV infection. The HIV antibody screening test for blood and a newly developed heat treatment of blood products necessary for the treatment of hemophilia have drastically reduced the risk of infection through blood transfusion and prescribed blood products.

Since all of the evidence that is currently available indicates that the HIV is NOT spread through casual contact, the primary means for preventing infection is to avoid those high-risk activities* that are known to place individuals at risk of exposure to the virus. Mandatory testing for the HIV antibody as a condition for school entry is NOT recommended.

The HIV-Infected Student in the Classroom

Decisions regarding the appropriate educational setting for the HIV-infected student, including those diagnosed with AIDS or less severe illnesses and infections due to HIV infection and those who are asymptomatic with laboratory evidence of HIV infection, should be based upon the physical condition and behavior of the student. For most infected students, casual person-to-person contact with other students appears to pose no risk. However, infected students who are neurologically handicapped and lack control of their body secretions or display biting behavior and those students who have uncoverable, oozing lesions are recommended to be excluded from school until more is known about transmission of HIV in these settings. Infected students should not participate in activities which might promote accidental bleeding (e.g., sewing classes, wrestling, etc.). No restrictions should be imposed on students who have family or household members who are infected with AIDS unless the students are also infected.

*High-risk activities include sexual or needle contact with an infected person or skin or mucous membrane contact with infected blood.

CHAPTER THREE

PROCEDURES FOR SCHOOL MANAGEMENT OF INFECTIOUS DISEASES

Prevention of infectious diseases depends on basic principles of cleanliness and hygiene. *Frequent hand washing is essential in the prevention of disease.* The transmission of these infectious diseases may be prevented by using standard procedures to maintain both personal and classroom cleanliness and by monitoring the actions of suspected and known infected students. THE PROCEDURES LISTED IN THIS CHAPTER SHOULD BE EMPLOYED AT ALL TIMES WHEN PROVIDING CARE FOR ALL STUDENTS, REGARDLESS OF THEIR INFECTIOUS DISEASE STATUS.

Teaching and supervising staff who perform these preventive measures for the control of infectious diseases is a school nursing function which does not require a physician's authorization. Personnel responsible for carrying out these procedures include the infectious disease review team, teachers, teachers' assistants, care workers, custodial staff, food handlers, volunteers, and anyone who may have direct contact with the students, equipment and supplies including eating utensils and play objects. Responsibility also extends to such areas as contaminated floors, walls, toilets, sinks, and changing surfaces, as well as contaminated clothing or cleaning equipment (such as mops).

I. Guidelines for Establishing Infectious Disease Prevention Procedures.

A. Transmission of infectious diseases may occur more readily where close personal contact is involved in student care. Preschool and kindergarten settings, as well as facilities for handicapped students, need special attention for the prevention of infectious diseases.

B. Preventing the transmission of infection requires that personal and environmental cleanliness techniques be practiced at all times in every school setting.

C. Prior to the enrollment or continued attendance in the regular or special classroom of an infected student, the school nurse shall develop specific procedures appropriate to the student's age and the stage of development for the specific disease. The school nurse should carry out the following procedures.

1. Conduct a health and developmental assessment including a review of the student's medical records. Collaborate with parents and the physician to ensure that the records are complete.

2. Identify students and school personnel who may be at risk such as those who are chronically ill, pregnant, capable of childbearing or taking immunosuppressant medication.

3. Identify appropriate personal and environmental cleanliness techniques in accordance with student and staff needs.

4. If the regular education program cannot be modified and the student is identified as an individual with exceptional needs, write appropriate health objectives for the student's Individual Education Program (IEP).

5. Orient and train all staff members including custodians, substitute teachers, volunteers, and bus drivers. Orientation and training must be ongoing and must be scheduled to include new personnel.

6. Maintain ongoing communication with parents and the primary physician regarding the student's status.

7. Verify the school district's efforts to prevent the transmission of infection and to protect the health of employees and students by documenting the training and supervision of employees. Documentation should include content outline, dates of presentation, and attendance list.

II. Guidelines for Maintaining a Safe, Healthful School Environment. THESE GUIDELINES AND PROCEDURES SHOULD BE FOLLOWED REGARDLESS OF THE PRESENCE OR ABSENCE OF A STUDENT KNOWN TO HAVE AN INFECTIOUS DISEASE.

A. The management of all facilities should make provisions for personal and environmental cleanliness.

1. Allow sufficient time for hand washing after using the toilet and before eating meals and snacks.
2. Provide ready access to hand-washing facilities. These should include a stream of temperate running water and soap in an operable dispenser. (Ideal temperate water is 75 to 110° F.)
3. Provide disposable paper towels. The use of cloth towels is discouraged; however, if cloth towels are used, discard them with other contaminated linens after *each* use.
4. Maintain storage areas for clean linens, utensils, equipment, and disposable items. These areas must be separate from areas used for storage of soiled items.
5. Keep soiled disposable items in covered waste receptacles lined with disposable plastic bags. At the end of each day, the plastic bags are to be sealed and discarded. DO NOT REUSE.

B. **Frequent hand washing is the most important technique for preventing the transmission of disease. Proper hand washing requires the use of soap and water and vigorous washing under a stream of temperate running water for at least 10 to 20 seconds.** (Ideal temperate water is 75 to 110° F.) Rinse under running water. Use paper towels to thoroughly dry hands.

There is no *effective substitute* for soap and running water.

Handwashing should occur:

1. Before putting on lab coat or smock (or large blouse or shirt to cover street clothes) in preparation for working with the students;
2. Before drinking, eating or smoking;
3. Before handling clean utensils or equipment;
4. Before and after handling food;
5. Before and after assisting or training the students in toileting and feeding;
6. After going to the bathroom;
7. After contact with body secretions such as blood (including menstrual flow), urine, feces, mucus, saliva, semen, tears, vomitus, drainage from wounds, etc.;
8. After handling soiled diapers, menstrual pads, garments, equipment, or refuse;
9. After caring for any student, especially those with nose, mouth, eye or ear discharge;
10. After removing disposable gloves; and
11. After removing lab coat or smock when leaving the work area.

C. All staff members should practice specific principles designed to protect themselves and others from infection.

1. Maintain optimum health through effective daily health practices such as adequate nutrition, rest, exercise, and appropriate medical supervision.
2. If a care provider has a cut or an open lesion on his/her hands, disposable gloves must always be worn when providing direct care for any student where there is contact with bodily excretion or secretions.
3. Avoid rubbing or touching eyes.
4. Refrain from kissing or being kissed by students.
5. Wash hands frequently.
6. Avoid the use of jewelry such as rings, bracelets and earrings during working hours.
7. Use one's own personal care items such as combs, fingernail files, nail clippers, lipsticks, and toothbrushes.
8. Keep fingernails clean and trimmed short.

D. Prevention of Needle-Stick and/or Sharp-Item Injuries.

1. Training and/or instruction of personnel who will be handling any sharp items or using needles for parenteral administration of medicaton should include discussions of methods to prevent injuries.
2. Used needles should not be recapped, purposely bent, or broken.
3. Used needles, syringes or any sharp items should be placed in a prominently labeled, sealed, puncture-resistant container designated specifically for their disposal. The containers should then be incinerated.
4. Locate the puncture-resistent container close to the area of use.

III. Procedures for Cleaning Up Body Fluid Spills (blood, feces, urine, semen, vaginal secretions, vomitus). THESE PROCEDURES SHOULD BE USED FOR ALL STUDENTS REGARDLESS OF THEIR INFECTIOUS DISEASE STATUS.

A. **Wear disposable or utility gloves.** (See Section VI(E) for selection of gloves.) When gloves are not available or unanticipated contact occurs, hands and other affected areas should be washed with soap and running temperate water immediately after contact.

B. Clean and disinfect all hard, soiled, washable surfaces immediately, *removing soil* before applying disinfectant.

1. SMALL SPILLS
Use paper towels or tissues to wipe up soiled areas. After soil is removed, use clean paper towels, soap and water to clean area. Dispose of paper towels in a plastic bag. Disinfect area. (See Section VI for selection of a disinfectant.)

2. LARGE SPILLS
Apply commercial sanitary absorbent agent on soiled area. After soil is absorbed, sweep all material into a plastic bag, taking care not to create any dust emissions. Disinfect area with a clean mop. (See Section VI for selection of a disinfectant.)

C. Clean and disinfect soiled rugs and carpets immediately by one of the following methods:

1. Use hospital or industrial equipment. (Follow manufacturer's directions and check products for shampooing and disinfecting.)

a. Apply commercial sanitary absorbent agent on soiled area. After soil is absorbed, carefully vacuum with one of the following:

(1) Hospital-grade wet vacuum extractor (this is a multipurpose extractor),

(2) Industrial-grade vacuum cleaner provided with a 99.9% High Efficiency Particulate Arrestor (H.E.P.A.) filter, or

(3) Hospital-grade vacuum cleaner with a High Efficiency filter.

b. Disinfect area with a compatible disinfectant.

c. Apply a bacteriostatic rug shampoo. Follow label directions and revacuum.

2. If one of the hospital- or industrial-grade wet extractors or vacuum cleaners is unavailable:

a. Apply a commercial sanitary absorbent agent on soiled area. Carefully scoop or scrape into a plastic bag while still wet.

b. Disinfect area with a compatible disinfectant.

c. Apply a bacteriostatic rug shampoo. Follow label directions. Brush and allow to dry.

d. Vacuum area.

D. Clean and disinfect equipment according to manufacturer's directions. Dispose of all disposable materials.

1. Flushable soiled tissues and waste may be flushed in toilet. Discard paper towels, vacuum bag, and sweepings in a covered waste receptacle lined with a plastic bag.

2. Wash broom and dust pan in disinfectant solution. (See Section VI.)

3. Soak mop in disinfectant solution and rinse thoroughly or wash in hot-water cycle after soaking in disinfectant.

4. Disinfectant solution and waste from hospital-grade wet vacuum extractor should be promptly disposed of in a sanitary sewer.

E. Clothing and other nondisposable items (e.g., sheets, towels) soiled with body fluids and/or secretions should be placed in a plastic bag to be sent home or laundered.

F. Remove gloves. Discard disposable gloves in covered waste receptacle. If utility gloves are worn, they must be washed, disinfected and air dried after each use.

G. Wash Hands.

H. Plastic bags holding contaminated waste should be secured and disposed of daily.

I. Large waste containers containing potentially contaminated waste (covered dumpsters or other covered containers which are impervious to animals) should be located in a safe area away from the playground or other areas used by students.

IV. Guidelines for Maintaining a Clean School Environment. THESE GUIDELINES AND PROCEDURES SHOULD BE FOLLOWED REGARDLESS OF THE PRESENCE OR ABSENCE OF A STUDENT KNOWN TO HAVE AN INFECTIOUS DISEASE.

A. Clean and disinfect the following areas and items daily:

1. Sinks and faucet handles.
2. Doorknobs and push plates.
3. Toilet seats and bowls (inside and out).
4. Desks and or table tops used for eating.

B. Clean and disinfect the following areas and items weekly:

1. Soap dispensers: empty, wash, disinfect and air dry;
2. Walls above sinks;
3. Desks and table tops (or more frequently as needed).

C. Clean classroom and hallway floors daily or more frequently as needed.

D. Vacuum carpets daily. If a rug or carpet is soiled, it should be cleaned and disinfected immediately. (See Section III C.)

E. Wash waste receptacles *at least weekly.*

F. Rugs or carpets should be cleaned and disinfected as needed. (See Section III C.)

G. If heavy utility (rubber) nondisposable gloves are worn when a disinfectant is being used, they must be washed, disinfected and air-dried after each use.

H. Use the following basic techniques for handling food and utensils.

1. Maintain a clean area of the kitchen for serving food.
2. Maintain a separate area of the kitchen for cleaning of soiled utensils, pots, pans, etc.
3. All leftover prepared or served food, dishes, and utensils should be treated as if they were contaminated.
4. Scrape food from soiled dishes and or place disposable dishes in plastic-lined, covered waste receptacle.
5. Pour liquids into sink drain.
6. Rinse dishes and utensils with warm water before placing them in the dishwasher or washing them by hand.
7. If dishwasher is unavailable, non-disposable food contact items should be washed, rinsed, sanitized and air dried. (See Section VI.)
8. Clean sinks, counter tops, tables, chairs, trays, and any other areas where foods or liquids have been discarded or spilled with an approved sanitizer. (See Section VI.)
9. Wash hands prior to removing clean dishes from the dishwasher and storing them in a "clean" area of the kitchen.

V. Special Procedures for Early Childhood, Day Care, and Special Classroom Settings. THESE PROCEDURES SHOULD BE USED FOR ALL STUDENTS REGARDLESS OF THEIR INFECTIOUS DISEASE STATUS.

A. Guidelines for Diapering

1. Purpose: To avoid cross-contamination when diapering.
2. Equipment:
   a. Disposable gloves for use with diapers;
   b. Changing table: student's own bed, cot, mat, or safe, firm, nonporous surface may be used. Single-use paper may be used along with proper cleaning and disinfecting;
   c. Readily accessible hand-washing facility including hot and cold running water (temperate 75 - 110° F), soap in workable dispenser and disposable paper towels;

d. Supplies (all within reach) for cleaning student's skin: soap, water and cotton balls or soft tissue or disposable baby wipes;

e. Plastic bags for student's soiled clothing;

f. Covered waste receptacle with a foot pedal lined with a disposable plastic bag for disposable diapers;

g. The use of cloth diapers is discouraged. However, if cloth diapers are used, a disposable plastic bag should be used for each student's soiled diapers and clothing;

h. Plastic bag ties or masking tape for sealing disposable plastic bags at time of discard; and

i. Disinfectant for cleaning diaper changing surface. (See Section VI.)

3. Procedure:

a. Wear disposable gloves;

b. Place student on clean changing surface;

c. Remove soiled diaper, fold soiled part to center and place in appropriate covered receptacle;

d. If other clothing is soiled, remove and place it directly in a plastic bag that can be marked with student's name, secured and sent home at the end of the day;

e. Cleanse the perineum and buttocks thoroughly with disposable baby wipes or paper towels with soap and water;

f. Change gloves if soiled;

g. Rinse skin well and dry prior to applying clean diaper;

h. Wash student's hands after diapering;

i. Have student return to class activity;

j. Clean and disinfect changing table, cleaning supplies and other contaminated articles;

k. Remove disposable gloves; and

l. Wash own hands.

4. Care of cloth diapers and soiled clothing:

Clothing and other nondisposable items (cloth diapers) should be placed in a plastic bag, tied and sent home or launder as indicated in C.5.

B. Guidelines for Cleanliness in Special Classroom Settings.

1. Purpose: To prevent the transmission of infectious disease.

2. Equipment:

a. If a lab coat or smock is worn when caring for a student:

(1) Use a freshly laundered garment each day and

(2) Always hang the garment right side out when leaving the work area for breaks or lunch;

b. Covered waste receptacles with disposable plastic bags;

c. Plastic bags that can be labeled and sealed for individual's soiled laundry;

d. Gloves (see Section VI);

e. Disinfectant (see Section VI);

f. Hand washing facility including hot and cold running water (temperate control 75 to 110° F), soap in operable dispenser, and disposable paper towels;

g. Washer and dryer if disposable linens are not available; and

h. Dishwasher (if disposable eating utensils are not available). If dishwasher is not available, see Section VI for selection of sanitizer.

C. Procedure for Storing, Cleaning, and Disposing of Classroom Equipment, Supplies, and Other Items.

1. Special cleaning procedures

a. If there are open cuts, abrasions, or weeping lesions on hands, wear disposable gloves and discard in a plastic bag in a covered waste receptacle.

b. Store and handle clean clothing and linens separately from soiled clothing and linens. Immediately place all soiled school linens in a plastic bag in a covered waste receptacle. Launder linens daily.

2. Immediately after use, discard any soiled disposable items by placing them in a plastic bag in a covered waste receptacle.

3. Separately store each student's personal grooming items (comb, brushes, toothbrushes).

4. In handling disposable diapers, seal and discard the disposable plastic bag used to line the covered receptacle at least once a day.

5. When laundry facilities are available at school, launder diapers, sheets or other cloth items soiled in the school setting daily.

   a. Separately launder diapers or other items soaked with body fluids.

   b. Presoak heavily soiled items.

   c. Follow the label directions to determine the amount of detergent to be added.

   d. If the material is bleachable, add 1 cup of household bleach to the wash cycle. (Follow label directions.)

   e. If the material is not colorfast, use a chlorinated detergent.

   f. Use hot cycle on washer and dryer.

6. At least once a day seal and discard the soiled plastic bag used to line the covered waste receptacle.

7. Cleaning and disinfecting schedule.

   a. Clean and disinfect protective floor pads, bolsters, wedges, and so forth after each student has been removed and at the end of each day. (All surfaces should be covered with protective nonabsorbing material.)

   b. Clean all toys used with soap and water, rinse thoroughly and sanitize as needed and at least daily. It is recommended that toys be sanitized between each child's use. A dishwasher may be used for small toys.

   c. Clean and disinfect all other equipment at the end of each day.

   d. If a rug or carpet becomes soiled with bodily fluids, clean it immediately. (See Section III C.)

   e. Clean and disinfect changing surface, bathtubs, sinks, portable potties, and toilet seats after each use. Rinse, disinfect and wipe dry. (See Section IV for Guidelines for Maintaining a Clean School Environment.)

VI. Selecting an Appropriate Disinfectant and Sanitizer.

A disinfectant should be used on all contaminated surfaces except on mouthed toys, eating utensils and food. These contact surfaces should all be sanitized.

A. Select a hospital-grade disinfectant which will kill vegetative bacteria, fungi and viruses. The product must be registered by the U.S. Environmental Protection Agency (EPA) for use as a hospital disinfectant.

B. Prepare and use all products according to label directions for disinfection and/or sanitizing.

   1. Examples of approved disinfectants are listed below:

      a. Quaternary ammonium, iadophor, and phenolic based compounds.

      b. Liquid household bleach disinfectant, approximately 8 teaspoons bleach (1 1/4 oz.) per 1 gallon water (500 ppm). To make a smaller amount in a 16-ounce spray bottle, use approximately 1 teaspoon bleach per 16 ounces water.

   2. Examples of approved sanitizers are listed below:

      a. Liquid household bleach: For spray or wiping cloth method, use approximately 3 teaspoons bleach (1/2 oz.) per 1 gallon water (200 ppm).

      b. Liquid household bleach: For submersion method, 1 1/2 teaspoons bleach (1/4 oz.) per 1 gallon water (100 ppm) submerge for 2 minutes.

C. Shelf life of bleach:

1. 1 year — open or not, undiluted in bleach bottle, protected from light.
2. 1 week — diluted with tap water for disinfecting.
3. 1 day — diluted with tap water for sanitizing.

D. Store all disinfectants in a safe area inaccessible to students.

E. Selection of Gloves:

1. Disposable (examination gloves)

   The Center for Devices and Radiological Health, FDA, has responsibility for regulating the medical glove industry. Medical gloves include those marketed as sterile, surgical or nonsterile, examination gloves made of vinyl or latex.

   There are no reported differences in barrier effectiveness between intact latex and intact vinyl used to manufacture gloves.

   Do not wash or disinfect examination gloves for reuse. Disinfecting agents may cause deterioration.

2. Utility Gloves

   General purpose utility (rubber household gloves) are not regulated by the FDA. The utility gloves should be used for cleaning/disinfecting or sanitizing and may be decontaminated and reused. The utility gloves should be discarded if they are peeling, cracked, or discolored, or if they have punctures, tears, and other evidence of deterioration.

F. Contact rug shampoo (soap) distributor for advice in choosing a disinfectant that is compatible with the rug shampoo in use. (Disinfectant needs to be compatible with a rug shampoo because of a possible stain or toxicity problem.)

   Use spray bottles with high-quality polyethylene; bleach will decompose rubber in spray bottles.

   Chlorine test papers are available to test the strength of solutions for assurance control.

APPENDIX A

Illinois Association of School Boards Sample Policy 256.03

BOARD OF EDUCATION

ADVISORY COMMITTEES TO THE BOARD — Communicable and Chronic Infectious Disease Program Task Force

The School Board is cognizant of the public's continuing concern regarding communicable and chronic infectious disease and therefore directs the establishment of a Communicable and Chronic Infectious Disease Program Task Force.

The Task Force will assist the school district in the development of a communicable and chronic infectious disease program that is consistent with the policies of the School Board and state and federal laws and regulations. The Task Force will serve in an advisory capacity to the School Board in the development of policies and implementation of the program.

The School Board President, with concurrence from the Board, shall appoint to the Task Force the following persons: the Superintendent or the Superintendent's designee, the school medical advisor, the school nurse and representatives from the School Board, the local health department, the P.T.A., the professional staff and other employee groups. The School Board shall reassess the need for the Task Force after one year.

Illinois Association of School Boards Sample Policy 720.18

STUDENTS

STUDENT WELFARE — Communicable and Chronic Infectious Disease

The School Board recognizes that the student with a communicable and chronic infectious disease is eligible for all rights, privileges and services provided by law and the District's policies. The District shall balance those student rights with the District's obligation to protect the health of all District students and staff.

The Board directs the administration to observe all rules of the Illinois Department of Public Health regarding communicable and chronic infectious disease. The Superintendent shall develop and implement procedures for the District to report to the local health authority, where appropriate, known or suspected cases of a communicable and chronic infectious disease involving a District student. The collection and maintenance of the student's medical information shall be done in a manner to ensure the strictest confidentiality and in accordance with federal and state laws regarding student records.

The determination of whether the student with a chronic infectious disease shall be permitted to attend school in a regular classroom setting or to participate in school activities with other students shall be made on a case-by-case basis by the Chronic Infectious Disease Review Team in direct consultation with the student's personal physician and local health authorities.

If the infected student is not permitted to attend school in a regular classroom or to participate in school activities with other students, due to a determination that he or she poses a high risk of transmission of a communicable and chronic infectious disease to other students and staff, every reasonable effort shall be made to provide the student with an adequate alternative education. State regulations and school policy regarding homebound instruction shall apply. Temporary removal of the student from the district's classroom(s) may be appropriate when:

- the student lacks control of bodily secretions;
- the student has open sores that cannot be covered;
- the student demonstrates behavior (e.g. biting) which could result in direct inoculation of potentially infected body fluids into the bloodstream.

Temporary removal of the student from the classroom for those reasons listed above is not to be construed as the only response to reduce risk of transmission of a communicable and chronic infectious disease. The District shall be flexible in its response and shall attempt to use the least restrictive means to accommodate the student's needs.

The removal of a student with a chronic infectious disease from normal school attendance shall be reviewed by the Chronic Infectious Disease Review Team, in consultation with the student's personal physician and local public health authorities, at least once every month to determine whether the condition precipitating the removal has changed.

When a student returns to school after an absence due to a communicable and chronic infectious disease, the school administration may require that he or she present a certificate from a physician licensed in the State of Illinois stating that the student is free from disease or otherwise qualifies for readmission to school under the rules of the Illinois Department of Public Health which regulate periods of quarantine, isolation and reporting.

If the parents/guardian disagree with the student's alternative educational placement or program, they shall be offered the opportunity to appeal to the School Board within ten (10) days of their notification of the decision of the Communicable and Chronic Infectious Disease Review Team.

The Superintendent or the Superintendent's designee shall be responsible for communicating and interpreting the District's communicable and chronic infectious disease policies and procedures to school district personnel, parents, students and community persons.

LEG. REF.: **Ill. Rev. Stat.**, ch. 122, para. 50-1 (1985).
Rules and Regulations for the Control of Communicable Diseases, Ill. Dept. of Public Health (1977).

APPENDIX B

AIDS Case Definition for Surveillance Purposes

Centers for Disease Control, 1987 Revision

For national reporting, a case of AIDS is defined as an illness characterized by one or more of the following "indicator" diseases, depending on the status of laboratory evidence of HIV infection, as shown below.

I. Without Laboratory Evidence Regarding HIV Infection

If laboratory tests for HIV were not performed or gave inconclusive results (See Supplement 2 to Appendix B) and the patient had no other cause of immunodeficiency listed in Section IA below, then any disease listed in Section IB indicates AIDS if it was diagnosed by a definitive method (See Supplement 2).

A. Causes of immunodeficiency that disqualify diseases as indicators of AIDS in the absence of laboratory evidence for HIV infection

1. high-dose or long-term systemic corticosteroid therapy or other immunosuppressive/cytotoxic therapy three or fewer months before the onset of the indicator disease
2. any of the following diseases diagnosed three or fewer months after diagnosis of the indicator disease: Hodgkin's disease, non-Hodgkin's lymphoma (other than primary brain lymphoma), lymphocytic leukemia, multiple myeloma, and other cancer of lymphoreticular or histiocytic tissue, or angioimmunoblastic lymphadenopathy
3. a genetic (congenital) immunodeficiency syndrome or an acquired immunodeficiency syndrome atypical of HIV infection, such as one involving hypogammaglobulinemia

B. Indicator diseases diagnosed definitively (See Supplement 2)

1. candidiasis of the esophagus, trachea, bronchi, or lungs
2. cryptococcosis, extrapulmonary
3. cryptosporidiosis with diarrhea persisting for more than one month
4. cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes in a patient more than one month of age
5. herpes simplex virus infection causing a mucocutaneous ulcer that persists longer than one month; or bronchitis, pneumonitis, or esophagitis for any duration affecting a patient greater than one month of age
6. Kaposi's sarcoma affecting a patient less than 60 years of age
7. lymphoma of the brain (primary) affecting a patient less than 60 years of age
8. lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia (LIP/PLH complex) affecting a child less than 13 years of age
9. *Mycobacterium avium* complex or *M. kansasii* disease, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
10. *Pneumocystis carinii* pneumonia
11. progressive multifocal leukoencephalopathy
12. toxoplasmosis of the brain affecting a patient greater than one month of age

II. With Laboratory Evidence for HIV Infection

Regardless of the presence of other causes of immunodeficiency (IA), in the presence of laboratory evidence for HIV infection (See Supplement 1), any disease listed above (IB) or below (IIA or IIB) indicates a diagnosis of AIDS.

A. Indicator diseases diagnosed definitively (See Supplement 2)

1. bacterial infections, multiple or recurrent (any combination of at least two within a 2-year period), or the following types affecting a child less than 13 years of age:

   septicemia, pneumonia, meningitis, bone or joint infection, or abscess of an internal organ or body cavity (excluding otitis media or superficial skin or mucosal abscesses), caused by *Haemophilus, Streptococcus* (including pneumococcus), or other pyogenic bacteria
2. coccidioidomycosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)
3. HIV encephalopathy (also called "HIV dementia," "AIDS dementia," or "subacute encephalitis due to HIV") (See Supplement 2 for description)
4. histoplasmosis, disseminated (at a site other than or in addition to lungs or cervical or hilar lymph nodes)

5. isosporiasis with diarrhea persisting greater than one month
6. Kaposi's sarcoma at any age
7. lymphoma of the brain (primary) at any age
8. other non-Hodgkin's lymphoma of B-cell or unknown immunologic phenotype and the following histologic types:
   a. small, noncleaved lymphoma (either Burkitt or non-Burkitt type)
   b. immunoblastic sarcoma (equivalent to any of the following, although not necessarily all in combination: immunoblastic lymphoma, large-cell lymphoma, diffuse histiocytic lymphoma, diffuse undifferentiated lymphoma, or high-grade lymphoma)

   Note: Lymphomas are not included here if they are of T-cell immunologic phenotype or their histologic type is not described or is described as "lymphocytic," "lymphoblastic," "small cleaved," or "plasmacytoid lymphocytic"
9. any mycobacterial disease caused by mycobacteria other than *M. tuberculosis*, disseminated (at a site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
10. diseases caused by *M. tuberculosis*, extrapulmonary (involving at least one site outside the lungs, regardless of whether there is concurrent pulmonary involvement)
11. *Salmonella* (nontyphoid) septicemia, recurrent
12. HIV wasting syndrome (emaciation, "slim disease") (See Supplement 2 for description)

B. Indicator diseases diagnosed presumptively (by a method other than those in Supplement 2)

Note: Given the seriousness of diseases indicative of AIDS, it is generally important to diagnose them definitively, especially when therapy that would be used may have serious side effects or when definitive diagnosis is needed for eligibility for antiretroviral therapy. Nonetheless, in some situations, a patient's condition will not permit the performance of definitive tests. In other situations, accepted clinical practice may be to diagnose presumptively based on the presence of characteristic clinical and laboratory abnormalities. Guidelines for presumptive diagnoses are suggested in Supplement 3.

1. candidiasis of the esophagus
2. cytomegalovirus retinitis with loss of vision
3. Kaposi's sarcoma
4. lymphoid interstitial pneumonia and/or pulmonary lymphoid hyperplasia (LIP/PLH complex) affecting a child less than 13 years of age
5. mycobacterial disease (acid-fast bacilli with species not identified by culture), disseminated (involving at least one site other than or in addition to lungs, skin, or cervical or hilar lymph nodes)
6. *Pneumocystis carinii* pneumonia
7. toxoplasmosis of the brain affecting a patient greater than one month of age

III. With Laboratory Evidence Against HIV Infection

With laboratory test results negative for HIV infection (See Supplement 1), a diagnosis of AIDS for surveillance purposes is ruled out *unless*:

A. all the other causes of immunodeficiency listed above in Section IA are excluded; *AND*

B. the patient has had either:
   1. *Pneumocystis carinii* pneumonia diagnosed by a definitive method (See Supplement 2); *OR*
   2. any of the other diseases indicative of AIDS listed above in Section IB diagnosed by a definitive method (See Supplement 2); *AND*
      a T-helper/inducer (CD4) lymphocyte count less than 400/mm^3.

SUPPLEMENT 1 TO APPENDIX B

Laboratory Evidence For or Against HIV Infection

1. For Infection:

When a patient has disease consistent with AIDS:

a. a serum specimen from a patient 15 months of age or older, or from a child less than 15 months of age whose mother is not thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test (e.g., enzyme-linked immunosorbent assay [ELISA]), as long as subsequent HIV-antibody tests (e.g., Western blot, immunofluorescence assay), if done, are positive; *OR*

b. a serum specimen from a child less than 15 months of age, whose mother is thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test (e.g., ELISA), plus increased serum immunoglobulin levels and at least one of the following abnormal immunologic test results: reduced absolute lymphocyte count, depressed CD4 (T-helper) lymphocyte count, or decreased CD4/CD8 (helper/suppressor) ratio, as long as subsequent antibody tests (e.g., Western blot, immunofluorescence assay), if done, are positive; *OR*

c. a positive test for HIV serum antigen; *OR*

d. a positive HIV culture confirmed by both reverse transcriptase detection and a specific HIV-antigen test or in situ hybridization using a nucleic acid probe; *OR*

e. a positive result on any other highly specific test for HIV (e.g., nucleic acid probe of peripheral blood lymphocytes).

2. **Against Infection:**
A nonreactive screening test for serum antibody to HIV (e.g., ELISA) followed by a negative or inconclusive supplemental test (e.g., Western blot, immunofluorescence assay) without a positive HIV culture or serum antigen test, if done.

3. **Inconclusive (Neither For nor Against Infection);**
   a. a repeatedly reactive screening test for serum antibody to HIV (e.g., ELISA) followed by a negative or inconclusive supplemental test (e.g., Western blot, immunofluorescence assay) without a positive HIV culture or serum antigen test, if done; *OR*

   b. a serum specimen from a child less than 15 months of age, whose mother is thought to have had HIV infection during the child's perinatal period, that is repeatedly reactive for HIV antibody by a screening test, even if positive by a supplemental test, without additional evidence for immunodeficiency as described above (in 1b) and without a positive HIV culture or serum antigen test, if done.

SUPPLEMENT 2 TO APPENDIX B

Definitive Diagnostic Methods for Diseases Indicative of AIDS

Diseases	Definitive Diagnostic Methods
cryptosporidiosis	microscopy (histology or cytology).
cytomegalovirus	microscopy (histology or cytology).
isosporiasis	microscopy (histology or cytology).
Kaposi's sarcoma	microscopy (histology or cytology).
lymphoma	microscopy (histology or cytology).
lymphoid pneumonia or hyperplasia	microscopy (histology or cytology).
Pneumocystis carinii pneumonia progressive multifocal	microscopy (histology or cytology).
leukoencephalopathy	microscopy (histology or cytology).
toxoplasmosis	microscopy (histology or cytology).
candidiasis	gross inspection by endoscopy or autopsy or by microscopy (histology or cytology) on a specimen obtained directly from the tissues affected (including scrapings from the mucosal surface), not from a culture.
coccidioidomycosis	microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues.
cryptococcosis	microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues.
herpes simplex virus	microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues.
histoplasmosis	microscopy (histology or cytology), culture, or detection of antigen in a specimen obtained directly from the tissues affected or a fluid from those tissues.
tuberculosis	culture.
other mycobacteriosis	culture.
salmonellosis	culture.
other bacterial infection	culture.
HIV encephalopathy	clinical findings of disabling cognitive and/or motor dysfunction interfering with occupation or activities of daily living, or loss of behavioral developmental milestones affecting a child, progressing over weeks to months, in the absence of a concurrent illness or condition other than HIV infection that could explain the findings. Methods to rule out such concurrent illnesses and conditions must include cerebrospinal fluid examination and either brain imaging (computed tomography or magnetic resonance) or autopsy.

HIV wasting syndrome	findings of profound involuntary weight loss of greater than 10% of baseline body weight plus either chronic diarrhea (at least two loose stools per day for 30 or more days) or chronic weakness and documented fever (for 30 or more days, intermittent or constant) in the absence of a concurrent illness or condition other than HIV infection that could explain the findings (e.g., cancer, tuberculosis, cryptosporidiosis, or other specific enteritis).

SUPPLEMENT 3 TO APPENDIX B

Suggested Guidelines for Presumptive Diagnosis of Diseases Indicative of AIDS

Diseases	Presumptive Diagnostic Criteria
candidiasis of espophagus	a. recent onset of retrosternal pain on swallowing; *AND* b. oral candidiasis diagnosed by the gross appearance of white patches or plaques on an erythematous base or by the microscopic appearance of fungal mycelial filiments in an uncultured specimen scraped from the oral mucosa.
cytomegalovirus retinitis	a characteristic appearance on serial ophthalmoscopic examinations (e.g., discrete patches of retinal whitening with distinct borders, spreading in a centrifugal manner, following blood vessels, progressing over several months, frequently associated with retinal vasculitis, hemorrhage, and necrosis). Resolution of active disease leaves retinal scarring and atrophy with retinal pigment epithelial mottling.
mycobacteriosis	microscopy of a specimen from stool or normally sterile body fluids or tissue from a site other than lungs, skin, or cervical or hilar lymph nodes, showing acid-fast bacilli of a species not identified by culture.
Kaposi's sarcoma	a characteristic gross appearance of an erythematous or violaceous plaque-like lesion on skin or mucous membrane. (Note: Presumptive diagnosis of Kaposi's sarcoma should not be made by clinicians who have seen few cases of it.)
lymphoid interstitial pneumonia	bilateral reticulonodular interstitial pulmonary infiltrates present on chest X-ray for two or more months with no pathogen identified and no response to antibiotic treatment.
Pneumocystis carinii pneumonia	a. a history of dyspnea on exertion ornonproductive cough of recent onset (within the past 3 months); *AND* b. chest X-ray evidence of diffuse bilateral interstitial infiltrates or gallium scan evidence of diffuse bilateral pulmonary disease; *AND* c. arterial blood gas analysis showing an arterial O_2 of less than 70 mm Hg or a low respiratory diffusing capacity (less than 80% of predicted values) or an increase in the alveolar-arterial oxygen tension gradient; *AND* d. no evidence of a bacterial pneumonia.
toxoplasmosis of the brain	a. recent onset of a focal neurologic abnormality consistent with intracranial disease or a reduced level of consciousness; *AND* b. brain imaging evidence of a lesion having a mass effect (on computed tomography or nuclear magnetic resonance) or the radiographic appearance of which is enhanced by injection of contrast medium; *AND* c. serum antibody to toxoplasmosis or successful response to therapy for toxoplasmosis.

Published by the Centers for Disease Control in *Morbidity and Mortality Weekly Report*, August 14, 1987, Volume 36, Number 15.

APPENDIX C

CLASSIFICATION SYSTEM FOR HIV INFECTIONS*

Definitions of the groups and subgroups of HIV infections are as follows:

Group I. Acute HIV Infection

Defined as a mononucleosis-like syndrome, with or without aseptic meningitis, associated with seroconversion for HIV antibody. Antibody seroconversion is required as evidence of initial infection; current viral isolation procedures are not adequately sensitive to be relied on for demonstrating the onset of infection.

Group II. Asymptomatic HIV Infection

Defined as the absence of signs or symptoms of HIV infection. To be classified in Group II, patients must have had no previous signs or symptoms that would have led to classification in Groups III or IV. Patients whose clinical findings caused them to be classified in Groups III or IV should not be reclassified in Group II if those clinical findings resolve.

Patients in this group may be subclassified on the basis of a laboratory evaluation. Laboratory studies commonly indicated for patients with HIV infection include, but are not limited to, a complete blood count (including differential white blood cell count) and a platelet count. Immunologic tests, especially T-lymphocyte helper and suppressor cell counts, are also an important part of the overall evaluation. Patients whose test results are within normal limits, as well as those for whom a laboratory evaluation has not yet been completed, should be differentiated from patients whose test results are consistent with defects associated with HIV infection (e.g., lymphopenia, thrombocytopenia, decreased number of helper [T_4] T-lymphocytes).

Group III. Persistent Generalized Lymphadenopathy (PGL)

Defined as palpable lymphadenopathy (lymph node enlargement of 1 cm or greater) at two or more extra-inguinal sites persisting for more than 3 months in the absence of a concurrent illness or condition other than HIV infection to explain the findings. Patients in this group may also be subclassified on the basis of a laboratory evaluation, as is done for asymptomatic patients in Group II (see above). Patients with PGL whose clinical findings caused them to be classified in Group IV should not be reclassified in Group III if those other clinical findings resolve.

Group IV. Other HIV Disease

The clinical manifestations of patients in this group may be designated by assignment to one or more subgroups (A-E) listed below. Within Group IV, subgroup classification is independent of the presence or absence of lymphadenopathy. Each subgroup may include patients who are minimally symptomatic, as well as patients who are severely ill. Increased specificity for manifestations of HIV infection, if needed for clinical purposes or research purposes or for disability determinations, may be achieved by creating additional divisions within each subgroup.

Subgroup A. Constitutional disease.
Defined as one or more of the following: fever persisting more than one month, involuntary weight loss of greater than 10% of baseline, or diarrhea persisting more than one month; and the absence of a current illness or condition other than HIV infection to explain the findings.

Subgroup B. Neurologic disease.
Defined as one or more of the following: dementia, myelopathy, or peripheral neuropathy and the absence of a concurrent illness or condition other than HIV infection to explain the findings.

Subgroup C. Secondary infectious disease. (See Appendix B)
Defined as the diagnosis of an infectious disease associated with HIV infection and/or at least moderately indicative of a defect in cell-mediated immunity. Patients in this subgroup are divided further into two categories:

Category C-1.
Includes patients with symptomatic or invasive disease due to one of 12 specified secondary infectious diseases listed in the surveillance definition of AIDS: *Pneumocystis carinii* pneumonia, chronic cryptosporidiosis, toxoplasmosis, extraintestinal strongyloidiasis, isosporiasis, candidiasis (esophageal, bronchial, or pulmonary), cryptococcosis, histoplasmosis, mycobacterial infection with *Mycobacterium avium* complex or *M. kansasii*, cytomegalovirus infection, chronic mucocutaneous or disseminated herpes simplex virus infection, and progressive multifocal leukoencephalopathy.

Category C-2.
Includes patients with symptomatic or invasive disease due to one of six other specified secondary infectious diseases: oral hairy leukoplakia, multidermatomal herpes zoster, recurrent *Salmonella* bacteremia, nocardiosis, tuberculosis, or oral candidiasis (thrush).

Subgroup D. Secondary cancers. (See Appendix B)
Defined as the diagnosis of one or more kinds of cancer known to be associated with HIV infection as listed in the surveillance definition of AIDS and at least moderately indicative of a defect in cell-mediated immunity: Kaposi's sarcoma, non-Hodgkin's lymphoma (small, noncleaved lymphoma or immunoblastic sarcoma), or primary lymphoma of the brain.

Subgroup E. Other conditions in HIV infection.
Defined as the presence of other clinical findings or diseases, not classifiable above, that may be attributed to HIV infection and/or may be indicative of a defect in cell-mediated immunity. Included are patients with chronic lymphoid interstitial pneumonitis. Also included are those patients whose signs or symptoms could be attributed either to HIV infection or to another coexisting disease not classified elsewhere, and patients with other clinical illnesses, the course or management of which may be complicated or altered by HIV infection. Examples include patients with constitutional symptoms not meeting the criteria for subgroup IV-A, patients with infectious diseases not listed in subgroup IV-C, and patients with neoplasms not listed in subgroup IV-D.

*This classification system for the spectrum of human immunodeficiency virus (HIV) infection was published by the Centers for Disease Control in *Morbidity and Mortality Weekly Report*, May 23, 1986, Volume 35, No. 20. The term "HIV" was used to replace the term "HTLV-III/LAV" which was used in the original text.

30

APPENDIX D

Glossary

Carrier — A person who harbors a specific pathogenic organism in the absence of discernible symptoms or signs of the disease and who is potentially capable of spreading the organism to others.

Chronic — Long, drawn out; applied to a disease that is not acute.

Cleaning — The removal by scrubbing and washing, as with hot water, soap or suitable detergent or by vacuum cleaning, of infectious agents and organic matter from surfaces.

Communicable Disease — 1) A disease which may be transmitted directly or indirectly from one individual to another. 2) A disease due to an infectious agent or toxic products produced by it.

Direct Care — Any service provided where direct contact is made with the student's body fluids.

Disinfection — The killing of infectious agents outside the body by direct exposure to chemical or physical agents.

Exclusion — For public health protection, action taken by school and health authorities to prohibit a student from attending school until the risk of spread of disease has diminished.

Fever — An elevation of body temperature of 1.4° above the normal.

Incontinence — Inability to retain urine, semen, or feces through loss of sphincter control or cerebral or spinal lesions.

Infectious Disease — Any disease caused by growth of pathogenic microorganisms, serum, or toxic materials introduced into the body.

Immunodeficient — A deficiency in immune response, mediated either by humoral antibody or by immune lymphoid cells.

Parenteral Administration of Medication — intravenous, subcutaneous or intramuscular injections.

Sanitary Absorbent Agent — A chemical used to absorb or transform liquid spills into a semisolid state.

Transmission of Infectious Agents — Any mechanism for infecting a susceptible person.

A. Direct transmission — Immediate transfer which takes place as a result of dropped spray from sneezing, coughing, spitting, singing, talking (usually within three feet) and exposure to open skin lesions, mucous membranes, blood and possibly other body fluids of an infected person.

B. Indirect transmission — Transfer which occurs when an object carries the virus to a suitable portal of entry (mucous membranes, break in skin, digestive tract). Objects may be toys, clothing, cooking or eating utensils, water, food, milk, pencils and other school supplies.

APPENDIX E

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